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Which contextual factors influence writing programme design in engineering education and what are the consequences for academic and disciplinary literacy?

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ABSTRACT

This workshop aims to allow participants to compare and discuss different ways of organising writing development in engineering education. On providing some examples and possible frameworks for considering writing development design, the facilitators will introduce an explorative activity to describe and categorise writing intervention along the scales of how generic or discipline-specific they are and how integrated or independent they are. This activity will generate a discussion about what our learning outcomes are, who designs and delivers writing development interventions, where and when in a programme should writing interventions be prioritised, and how does writing development design help enhance students' disciplinary literacy? What is the focus of the writing development provided students Participants in the workshop will be asked to refer to their own experience and course or programme design as well as their supervision experience.

KEYWORDS

Writing development, disciplinary literacy, writing programme design

WORKSHOP DESCRIPTION

Writing remains a persistent gap in the competencies of new engineering graduates. While there are various international approaches to designing writing instruction for engineering students (Anson & Flash, 2021; Wilkinson & Valcke, 2017; Winberg et al., 2013; Thais et al., 2012), our respective designs are situated in contexts and philosophies. A 2022 study demonstrated how profoundly varied writing support for students and faculty is across many European universities (Melonashi et al., 2022). Consequently, some writing programme designs are not feasible in some sites whereas others might seem insufficient from the perspective of any one site. Related data from a pilot study of writing instruction in US engineering education suggests similar variation

(Gustafsson, Paretti, and Berdanier, 2023). What is the impact of this variation and how do our respective designs align with what we want students to learn and become in terms of disciplinary discourse?

In our study, we investigate the scaffolding of academic, disciplinary, and workplace literacy in engineering by considering the continua between generic and specific, integrated and modular, subject matter expertise and writing expertise, and individual multidisciplinary teachers and multidisciplinary teaching teams. We try to explore how these dimensions of higher education are manifested in different educational settings and how they affect writing programme design, faculty collaboration, and, ultimately, student learning. Current data collection suggests that the conceptualization of the dimensions as continua is reasonable. For example, programmes appear to need both the generic and the specific. Programmes also need to scaffold transfer into the discipline since that is challenging and that support or scaffolding from disciplinary faculty is crucial in that long-term process. However, we also see that organizational conditions form boundaries for the writing program design desired at any given site.

Workshop objective

The workshop aims to explore how the various continua of disciplinary literacy education on the one hand, and the needs and expectations of engineering disciplines on the other hand affect the design of writing instruction. Together with workshop participants, we hope explore how these dimensions of higher education are manifested in different educational settings and how they might affect student learning.

This type of inventory of perspectives is a starting point for a further exploration of definitions and conceptualizations for facilitating disciplinary literacy across engineering programmes. The workshop, thus, inventories as well as critically discusses our role(s) in promoting academic literacy in our various institutional contexts while also negotiating the challenges of scaffolding the interdisciplinary discourses of engineering work.

The workshop facilitators will give examples of a continuum of learning activities from the generic to the specific via various integrated literacy activities to promote learning and academic discourses. Cases and examples for discussion as well as prompts for participant descriptions and analyses will mainly focus on writing development activities for collaborative learning contexts.

We hope our exploration of conditions and terms explore and problematize the respective continua and the design of writing programmes can shed some light on disciplinary learning, communication, and ownership.

Workshop participants and preparations

In the workshop, participants are asked to share their examples of writing instruction from their own experiences and institutional situations. Individual teacher colleagues can account for courses and interventions. Participants who are programme managers or perhaps connected to university-wide services like writing centres might be able to offer insights on more than one intervention or might be able to account for programmes designs involving ideas of progression in literacy development for both student and

faculty. Ideally, participants are able to bring course and / or programme plans or other ways of accessing what disciplinary literacy development might look like in their contexts.

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